

REMARKS

The present is in response to the Office Action of November 29, 2004. In view of the comments below, favorable reconsideration is kindly requested.

In the noted Office Action, the Examiner has rejected claims 1 – 83 under 35 USC 112, first paragraph, as being non-enabled, and has further rejected claims 1-5, 8, 11-15, 18, 21-26, 29-31, 34-40, 43-44, 47-50, 53, 56-59, 62, 65-71, 74-80 and 83 as being anticipated under 35 USC 102 over Henning (USP 6,462,307). The remaining claims have been rejected under 35 USC 103 as being obvious over Henning, as taken with Gu (2004/0134896 A1) or Sun (2002/0125227 A1) in separate combinations. These rejections are respectfully traversed.

Turning first to the section 112 rejection, the Examiner's complaint is that the present specification does not describe in detail the "optical elements" which would be needed to control or tailor the various pulse parameters such as width, wavelength, polarization, etc.

It is submitted that these details are unnecessary in the present application, inasmuch as this application is essentially directed to materials processing, and not to the combination of optical elements of a laser system *per se*. The present application was separately prepared and submitted as part of a set of applications, all filed on the same day, which applications are directed to, *inter alia*, laser systems and components capable of performing materials processing as described in the current application. The Examiner will note that the entire first page of the present application is given over to enumerating and incorporating these applications by reference. While Applicants could physically incorporate disclosures from these applications herein, and herewith offer to do so, this burdensome task is not believed to be necessary inasmuch as elements of those disclosures are not herein claimed, nor are their details essential to an understanding of or support for the invention claimed in this application.

Further, the elements necessary to control pulse parameters such as mentioned by the Examiner are well known in the art. Indeed, the Examiner cites and relies upon prior art systems which in fact control such parameters as frequency (Henning), polarization (Gu), wavelength (Gu), etc., and which disclose optical elements for performing such control.

Accordingly, the withdrawal of the rejection under section 112 is respectfully requested.

Turning now to the prior art rejections, Applicants respectfully submit that the Examiner has misconstrued the primary reference (Henning), and that this reference is not in fact relevant to the claimed invention. An explanation follows.

As the Examiner appreciates, the claims of this application are directed to an arrangement wherein at least first and second laser pulses, *separated in time*, are applied to a target area for material processing purposes. In essence, the first pulse conditions the target material in a particular way, whereas the second pulse typically is responsible for subsequent processing, e.g., material removal. The majority of the independent claims also specify that the first applied pulse is longer (greater pulse width) than the second applied pulse.

Henning is not directed to such a technique. Although Figs 3a – 3c of Henning superficially resemble plots included in the present application, the Henning figures are plots of *position vs. intensity*. What these figures therefore show is *two spatially separated beams from one laser, hitting a target simultaneously at two spatially separated locations*. The pulse width in Henning is not varied, i.e., it is exactly the same for each pulse. Since the single laser used in Henning is a Q-switched Nd:YAG laser, it will be apparent to those of skill in the art that the pulse width is on the order of nanoseconds to 100s of nanoseconds in duration.

Using present claim 1 as an exemplar, this claim requires:

at least first and second pulses of laser light displaced in time, wherein the first pulse has a first pulse width and the second pulse has a second pulse width, and the first pulse width is greater than the second pulse width

The Examiner will thus appreciate from the preceding discussion that Henning is not relevant to the underlined limitations above. Analogues of one or the other of these limitations (or both) appear in each of the independent claims, whereby it is believed that each of these claims recites an invention quite different from that described by Henning.

Inasmuch as Henning has been shown to operate in a completely different manner than the claimed invention, it is believed that the combinations based thereon are similarly deficient, whereby a detailed discussion thereof is not warranted.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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